AMENDMENTS TO THE SPECIFICATION

Please amend paragraph #0019 as follows:

--Embodiments of the present invention ~~provides~~ provide a dithering technique that efficiently combines a non-correlated noise signal (also referred to as dither) with the desired signal to achieve high performance A/D conversion. The techniques can be employed in other noise-based applications as well. In addition, a self-contained dithering module is disclosed that generates a desired amplitude of noise as well as the appropriate noise signal roll-off for optimal dithering results.--

Please amend paragraph #0022 as follows:

--Figure 1 is a block diagram of a self-contained dithering module configured in accordance with one embodiment of the present invention. The device includes a voltage regulator 105, a noise source 110, a filter and gain stage 115, and an RF diplexer 120. Power is supplied to the regulator 105, which in turn provides regulated power internal to the device. A desired input signal is provided to the diplexer 120, along with a non-correlated noise signal from the filter and gain stage 115. The signal output by the device includes both the desired signal and the noise. This output can be provided to, for example, a data converter or other device ~~than~~ that can benefit from the effect of injecting non-correlated noise.--

Please amend paragraph #0023 as follows:

-- The voltage regulator 105 receives power from a source, such as a battery or external supply, and provides a regulated output power. This regulated output is made available to other active modules of the device. The regulator 105 can be implemented in conventional technology, and may further be configured with a step up or down transformer to adjust the input voltage. In one particular embodiment, the regulator 105 receives an input voltage of about +15 volts DC ~~reference~~ referenced to the common (ground), and provides a regulated 10 volt DC output. Numerous voltage output values and regulator configurations will be apparent in light of this disclosure (e.g., such as a dual output source, having both +5 and +15 volts DC regulated outputs generated from a signal input source.--

Please amend paragraph #0027 as follows:

--In one particular embodiment, the gain and ~~phase~~ filter stage 115 is implemented as a passive single pole, low pass filter in series with a differential amplifier having sufficient gain to produce a noise out signal with the desired amplitude. Additional poles and or gain can be provided as necessary. Optional circuit driving capability (e.g., for current-based applications such as A/D conversion) may also be included in the gain and ~~phase~~ filter stage 115. Alternatively, such optional driving capability may be external to the gain and ~~phase~~ filter stage 115.--

Please amend paragraph #0028 as follows:

--In another particular embodiment, the gain and ~~phase~~ filter stage 115 has a number of sections including a differential amplifier that amplifies the output of the noise source 110 (e.g., gain of 2 or more), and provides a differential output to an active low-pass filter. The active low-pass filter can have, for example, a pass-band gain (e.g., 5 dB or more), a corner frequency under 5 MHz, and a roll-off of 20 dB/decade or better. The output of the low-pass filter section can then be applied to another amplifier capable of low voltage processing, as well as driving the likes of an A/D converter or other noise-based applications.--

Please amend paragraph #0029 as follows:

--Note that numerous gain and ~~phase~~ filter stage 115 configurations are possible here, and the principles of the present invention can be employed with any one of them. Design choices and implementation details such as what specific components to use and whether to use active or passive filtering (or some combination thereof), as well as selecting the appropriate parameters such as overall gain and filter-order, must be made on an application-by-application basis. Further note that intermediate sections of the gain and filter stage can be repeated or otherwise configured as necessary to shape the noise output accordingly.--

Please amend paragraph #0032 as follows (i.e., add a period after "... and high-pass sections"):

-- Diplexer 120 can be implemented in conventional technology, and typically includes a high-pass filter in parallel with a low-pass filter. A number of RC series tank elements in parallel with the filters compensates for undesired reflections. The diplexer may be implemented, for example, from lumped or continuous passive elements. Active diplexer configurations are available as well. Triplexers are three way splitter/combiners which include a low pass, band pass, and high-pass ~~sections~~sections. A triplexer operates similar to a diplexer, but allows for a tri-band operation. An application for such would be, for example, where two noise signals are injected into a desired signal. One noise signal band would be below the desired signal, while the other noise signal band would be above the desired signal band (assuming there would be no interference of the desired signal's frequency band).--

Please amend paragraph #0040 as follows:

--This particular gain and ~~phase~~ filter stage 115 includes a gain block including two wideband operational amplifiers (U2 and U3) which amplify the output of the noise source 210. Numerous amplification schemes are possible here. The amplified output is provided to an active low-pass filter block (U4 and U5). In one such embodiment, the active low-pass filters are each a 7th order filter having a pass-band gain of about 12 dB, and a corner frequency of about 2.3 MHz (e.g., LTC1566-1, Linear Technology). These cascaded filters effectively double gain and roll-off performance. The output of the low-pass filter block is applied to the noise input of the diplexer 220.--